

**De-electrification of Bihar Villages for Railway Electrification**

1512. DR. MAHESH CHANDRA SHARMA: Will the Minister of RAILWAYS be pleased to state:

(a) whether Government's attention has been drawn to the December, 1999 issue of the "Out Look", to the effect that 14000 villages in Bihar had to be de-electrified for Railway Electrification Projects; and

(b) what are the details in this regard and the justification thereof?

THE MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI O. RAJAGOPAL): (a) Ministry of Railways have seen the write-up titled "Fictional Power" as appeared in 20th December, 1999 issue of the "OUTLOOK" magazine. However, there is no mention that any village had to be de-electrified for Railway Electrification Projects.

(b) Does not arise, in view of (a) above.

**Developments in Biotechnology for Agricultural Production**

1513. DR. MANMOHAN SINGH: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether Government have worked out a strategy to make the fullest use of new developments in biotechnology so as to increase agricultural production and to improve the health status of the nation; and

(b) if so, the details thereof?

THE MINISTER OF STATE IN THE DEPARTMENT OF SCIENCE AND TECHNOLOGY IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT): (a) and (b) Yes, Sir. The Department of Biotechnology (DBT) in association with other S & T Departments, State Governments, NGOs and Private Sector is implementing several projects/programmes to harness new developments in biotechnology to increase agricultural production including aspects of malnutrition

and to improve healthcare. Necessary infrastructure and expertise have been developed to improve crop varieties through genetic engineering and molecular marker assisted breeding strategies. Tissue culture techniques have been developed for mass multiplication of elite planting material of horticulture and plantation crops. In plant genomics, India is a partner in the International Rice Genome Programme. A protein rich transgenic potato is under field trial. Efforts have been made to produce biological products, vaccines and diagnostics using recombinant DNA technology for improving productivity and disease resistance in farm animals. In aquaculture and fisheries, diagnostics and vaccines for some diseases have been developed. In the area of healthcare, emphasis is on development of new generation vaccines for prophylactic and therapeutic use, diagnostics, drug delivery systems and production of important biologicals and biomedicals. An immunomodulatory therapeutic vaccine for leprosy has already been commercialised. Autonomous institutions viz. National Institute of Immunology, New Delhi; National Centre for Cell Science, Pune; National Brain Research Centre, New Delhi; Centre for DNA Fingerprinting and Diagnostics, Hyderabad and National Centre for Plant Genome Research, New Delhi are contributing towards generation of knowledge as also services and products. Realising the importance of plant based medicines, programme have been initiated for development of new molecules, drugs, prospecting new genes and the whole field of pharmacogenomics.

Initiatives have also been undertaken in the area of plant, human and microbial genomics relevant to national needs to understand specific biological functions and to identify new genes and molecules. Many diagnostic, tissue culture and microbial technologies have been transferred to industry. The overall strategy is to support intensive research in modern biology, product and process development and whenever ready go for commercialisation. Human resource development is an integral part of this' strategy.